CLAIMS

We claim:

1. A peptide of from 3 to 50 amino acids in total length,

(a) containing a sequence (a) of at least 3 amino acids which is identical to a sequence found within amino acids 307 to 356 of the human blood clotting factor Va (SEQ ID NO. 1), but excluding the two peptides identical to the amino acid sequences from 311 to 325 (SEQ ID NO. 15) and 321 to 335 (SEQ ID NO. 16), and

(b) optionally containing additional amino acid sequences at the N-terminal end of (a), the C-terminal end of (a), or both the N- and C-terminal ends of (a) such that the amino acid sequence of the entire peptide is at least 60% identical to a sequence within SEQ ID NO. 1, and

(c) the peptide also exhibiting an IC_{50} of between 50 nM to 500 μM for inhibition of prothrombinase.

2. The peptide of claim 1, wherein sequence (a) contains at least 5 amino acids which are identical to a sequence found within amino acids 307 to 356 of the human blood clotting factor Va (SEQ ID NO. 1).

3. The peptide of claim 1, wherein sequence (a) contains at least 7 amino acids which are identical to a sequence found within amino acids 307 to 356 of the human blood clotting factor Va (SEQ ID NO. 1).

4. The peptide of claim 1, wherein sequence (a) contains at least 10 amino acids which are identical to a sequence found within amino acids 307 to 356 of the human blood clotting factor Va (SEQ ID NO. 1).

5. The peptide of claim 1, wherein after addition of additional amino acid sequences at the N-terminal end, the C-terminal end, or both the N- and C- terminal ends of sequence (a), the sequence of the entire peptide is at least 75% identical to a sequence within SEQ ID NO. 1.

6. The peptide of claim 1, wherein after addition of additional amino acid sequences at the N-terminal end, the C-terminal end, or both the N- and C-terminal ends of sequence (a), the sequence of the entire peptide is at least 90% identical to a sequence within SEQ ID NO. 1.

7. The peptide of claim 1, wherein after addition of additional amino acid sequences at the N-terminal end, the C-terminal end, or both the N- and C-terminal ends of sequence (a), the sequence of the entire peptide is at least 95% identical to a sequence within SEQ ID NO. 1.

8. The peptide of claim 1, wherein said peptide exhibits an IC_{50} of between 50 nM to 250 μM for inhibition of prothrombinase.

9. The peptide of claim 1, wherein said peptide exhibits an IC_{50} of between 50 nM to 150 μM for inhibition of prothrombinase.

10. The peptide of claim 1, wherein sequence (a) is selected from the group consisting of SEQ ID NO. 2, SEQ ID NO. 5, SEQ ID NO. 6, SEQ ID NO. 7, SEQ ID NO. 8, SEQ ID NO. 11, SEQ ID NO. 12, and SEQ ID NO. 13.

11. The peptide of claim 1, wherein sequence (a) is comprised of an amino acid sequence identical to a sequence found within either amino acids 317 to 341 or 352 to 356 of SEQ ID NO. 1.

12. The peptide of claim 11, wherein sequence (a) is from 3 to 40 amino acids in total length.

13. The peptide of claim 11, wherein sequence (a) is from 3 to 20 amino acids in total length.

14. The peptide of claim 11, wherein sequence (a) is from 3 to 15 amino acids in total length.

15. The peptide of claim 11, wherein sequence (a) is from 3 to 10 amino acids in total length.

16. The peptide of claim 1, wherein the peptide is selected from the group consisting of SEQ ID NO. 2, SEQ ID NO. 5, SEQ ID NO. 6, SEQ ID NO. 7, SEQ ID NO. 8, SEQ ID NO. 11, SEQ ID NO. 12, and SEQ ID NO. 13.

17. The peptide of claim 1, wherein the peptide is comprised of an amino acid sequence identical to a sequence found within either amino acids 317 to 341 or 352 to 356 of SEQ ID NO. 1 and further wherein the peptide is free of additional amino acid sequences at the N-terminal end and the C-terminal end.

18. The peptide of claim 17, wherein the peptide is from 3 to 40 amino acids in total length.

19. The peptide of claim 17, wherein the peptide is from 3 to 20 amino acids in total length.

20. The peptide of claim 17, wherein the peptide is from 3 to 15 amino acids in total length.

21. The peptide of claim 17, wherein the peptide is from 3 to 10 amino acids in total length.

22. The peptide of claim 1, wherein at least one amino acid within said peptide is a non-naturally occurring amino acid.

23. The peptide of claim 1, wherein at least one amino acid within said peptide is a D-amino acid.

24. The peptide of claim 1, wherein at least two amino acids in said sequence are joined by non-hydrolyzable peptide bonds.

25. The peptide of claim 1, wherein said peptide is a cyclized peptide.

26. A pharmaceutical composition comprising one or more peptides of claim 1, and one or more additives selected from the group salts, buffering agents, preservatives, adjuvants, vehicles, pharmaceutically-acceptable carriers, and other therapeutic agents.

27. A method for treating human subjects with blood clotting disorders, wherein the pharmaceutical composition of claim 26 is administered to human subjects.